

***Oenothera affinis* Camb. (Onagraceae) – a new record for India from Himalaya**

D. S. Dhaliwal & M. Sharma

Department of Botany, Punjabi University, Patiala – 147 002, India

Abstract

Oenothera affinis Camb., a new plant report for Indian flora is described.

Oenothera Linn. is a New World genus having about 125 species (Hoch & Raven, 1981). Several species are widely cultivated throughout the world and some of them have escaped and got naturalized throughout in many temperate regions of the world. The estimate about the exact number of species naturalized in India is difficult to make and hence not quoted by Santapau & Henry (1973). This may be due to varying perception of naturalization by observers. This is also evident from the statement by Gamble (1919) – "*Oenothera rosea*, Ait. and *O. tetraptera*, Cav., also perhaps some other species, are found in gardens and apparently run wild on the Nilgiri Hills, and sometimes on other hills in Deccan and W. Ghats." Chowdhery & Wadhwa (1984) have recorded five species of *Oenothera* from Himachal Pradesh. This compilation is based on the plants deposited in various herbaria (see preface) and there is no indication from the cited literature or otherwise, whether all these species have naturalized in Himachal Pradesh. As pointed out by Hoch & Raven (1981) and Dar & Naqshi (1984), *O. biennis* and *O. drummondii* of Indian authors (including Chowdhery & Wadhwa, 1984) is *O. glazioviana* Micheli. Unambiguous reports (Santapau & Henry, 1973; Babu 1977; Dar & Naqshi, 1984) of *Oenothera* species which run wild in North-West Himalaya pertain to *O. rosea* L'Her. ex Ait. (syn. *Hartmannia rosea* (L'Her. ex Ait.) G. Don) and *O. glazioviana* Micheli only. During our plant exploration of Kullu district of Himachal Pradesh during 1988–92, we came across a third species, namely *O. affinis* Camb. running wild, which has not been recorded earlier from India by Naithani (1990) who has compiled the list of all the angiosperms introduced in India since the publication of "Flora of British India" by Hooker (1872–1897). The identity of this species was confirmed from literature and Kew Herbarium. It is a native of South America from Bolivia and Brazil southwards to central Argentina and Chile. Widely naturalized in Europe, Australia, Africa and Hawaiian Island. Nor common in Pakistan (Hoch & Raven, 1981).

Following key helps to segregate the three species of *Oenothera* naturalized in North-West Himalaya.

1. Hypanthial tube 8–12 cm long.....*O. affinis*
1. Hypanthial tube 0.4–5 cm long:

D. S. Dhaliwal and M. Sharma

2. Flowers rose to rose-purple; petals 0.4–1.2 cm long; capsule tapering to a stipe-like sterile portion..... *O. rosea*
2. Flowers yellow; petals 3.5–5 cm long; capsule sessile, not tapering to a stipe-like sterile portion..... *O. glazioviana*

This newly introduced species is described below:

O. affinis Camb. in St. Hil. Fl. Bras. Mer. 2:269. 1829; Raven in Tutin *et al.* Fl. Europ. 2: 307. 1968; Dietrich, Ann. Missouri Bot. Gard. 64: 524. 1978; Hoch & Raven in Nasir & Ali, Fl. Pak. 139: 40. f. 5B. 1981. *O. chilensis* Fisch. & Mey. Ind. Sem. Hort. Bot. Petrop. 45. 1835.

Erect annual herbs 1–1.5 m tall, covered with soft, long, patent, greyish hairs and densely glandular pubescence. Stem unbranched or branched. Leaves alternate, sessile, 5–8 x 0.5–1.2 cm, linear-lanceolate, acute, entire to undulate, remotely denticulate. Floral (upper) leaves (bracts) 3–4.5 cm long, narrowly lanceolate, longer than the capsule they subtend. Flowers tetramerous, actinomorphic, in the axil of upper leaves. Floral (hypanthial) tube 8–12 cm long, produced beyond ovary and deciduous after anthesis. Sepals free, 3–4 cm long, linear, reflexed; tips 1.5–2 mm long, erect or divergent. Petals 3–4 cm long, broadly obovate, yellow turning reddish – brown at maturity. Stamens 8; filaments 2–2.5 cm long; anthers 1 cm long, versatile. Style 7–12 cm long; stigma deeply 4-lobed, held above the anthers at anthesis or surrounded by them. Capsule sessile, 3–4 x 0.4–0.5 cm, thicker in the upper third, somewhat 4-angled, 4-loculed, many-seeded. Seeds 1.5–2 x 0.7–0.8 mm, quadrangular-oblong, smooth.

This species is immediately distinguished from the other species of the genus naturalized in India because of its very conspicuous floral (hypanthial) tube which is 8–12 cm long. The flowers open near sunrise or sunset.

Common on dry slopes and in waste places along apple orchards, 1,800–2,200 m.

Flowers and Fruits: June — September.

Specimens examined: Jarri, Naggar; D. S. Dhaliwal 16306, 16409 (PUN).

Acknowledgements

We are obliged to Dr. V. J. Nair, Indian Liaison Officer for confirming the identity of the species at Kew herbarium. The first author is grateful to UGC New Delhi, for providing Teacher Fellowship. Herbarium and library facilities provided by the authorities of CAL, BSD and DD are thankfully acknowledged.

***Oenothera affinis*, a new record for India**

Literature cited

- Babu, C. R. 1977. *Herbaceous flora of Dehra Dun*. New Delhi.
- Chowdhery, H. J. & Wadhawa B. M. 1984. *Flora of Himachal Pradesh*. Vol. 1, Howrah.
- Dar, G. H. & Naqshi, A. R. 1984. The correct identity of *Oenothera drummondii* Hk. f. (Onagraceae) from Kashmir Himalaya. *Biol. Bull. India* 6: 311-312.
- Gamble, J. S. 1919. *Flora of the Presidency of Madras*. Part III. Adlard & Son Ltd., London.
- Hoch, P. C. & Raven, P. H. 1981. Onagraceae. In: E. Nasir & S. I. Ali (Eds.) *Flora of Pakistan*, No. 139, Islamabad.
- Hooker, J. D. 1872-1897. *Flora of British India*. Vol. 1-7. London.
- Naithani, H. B. 1990. *Flowering plants of India, Nepal & Bhutan*. Dehra Dun.
- Santapau, H. & Henry, A. N. 1973. *A Dictionary of the Flowering Plants in India*. New Delhi.